


Appendix 5C

OU-5 South WRA 2019-2020 Borehole Logs and Borehole Elevations

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1536840.95 N / 327084.63 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/21/2020		DATE FINISHED: 1/27/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 202.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 4" & 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-202')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
10:40	0	Run 1	WRSB206_0.5-3							POORLY GRADED SAND with GRAVEL (SP): yellowish brown (10YR 5/4), dry, ~60% fine to coarse sand, ~35% subangular gravel (up to 2 inches in diameter), ~5% fines, loose, weak cementation, no reaction with HCl	WASTE ROCK	Sample WRSB206_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
10:41 10:49	6	Run 2	WRSB206_3-6									
7												
8												
9												
10												
11												
12												
13												
14												
15												
			WRSB206_6-15									



See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
16		Run 2								POORLY GRADED SAND with GRAVEL (SP): continued	WASTE ROCK	
17	10:53 11:28											
18												
19												
20												
21										SILTY SAND with GRAVEL (SM): pink (5YR 7/4), dry, ~45% fine to coarse sand, ~35% subangular gravel (up to 2.5 inches in diameter), ~20% low plasticity fines, loose, weak cementation, no reaction with HCl		
22		Run 3								At 22.5 ft: boulder		
23										POORLY GRADED SAND with GRAVEL (SP): pink (5YR 7/4), dry, ~60% fine to coarse sand, ~35% subangular gravel (up to 2 inches in diameter), ~5% fines, loose, weak cementation, no reaction with HCl		
24										At 24 ft: yellowish brown (10YR 5/4)		
25												
26												
27	11:28 11:53											
28												
29												
30		Run 4										
31												
32												
33												

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)									
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)									
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS							
34		Run 4								POORLY GRADED SAND with GRAVEL (SP): continued		Sample WRSB206_25-35 collected from 25 to 35 ft bgs.							
35																			
36																			
37	11:40 12:50																		
38		Run 5	WRSB206_35-45							At 41 to 43 ft: pink coloration	WASTE ROCK								
39																			
40																			
41																			
42																			
43																			
44																			
45																			
46																			
47	12:55 13:10																		
48		Run 6	WRSB206_45-55							At 51 ft: increase in fines but <10%									
49																			
50																			
51																			
52																			

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
53		Run 6	WRSB206_45-55							POORLY GRADED SAND with GRAVEL (SP): continued		
54												
55												
56												
57	13:15 13:21	Run 7	WRSB206_55-65							At 65 ft: increase in iron oxide content	WASTE ROCK	
58												
59												
60												
61		Run 8	WRSB206_65-75									
62												
63												
64												
65												
66												
67	13:27 13:41											
68												
69												
70												

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada	Log of Boring No. WRSB-206 (CONT.) Monitoring Well / Piezometer ID: NA (CONT.)
CLIENT: Atlantic Richfield Company	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
71										POORLY GRADED SAND with GRAVEL (SP): continued		
72												
73												
74		Run 8	WRSB206_65-75									
75												
76												
77	13:52 14:00											
78												
79											WASTE ROCK	
80												
81												
82		Run 9	WRSB206_75-85									
83												
84												
85												
86												
87	14:06 14:10											
88		Run 10	WRSB206_85-95									


PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
										POORLY GRADED SAND with GRAVEL (SP): continued		
90		Run 10	WRSB206_85-95									
91												
92												
93												
94												
95										At 95 ft: cobbles (up to 6 inches)		
96												
97	14:16 14:25											
98												
99												
100												
101												
102		Run 11	WRSB206_95-105									
103												
104												
105												
106												
107	14:32 14:43 R12		WRSB206_105-115									

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)			
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
108		Run 12	WRSB206_105-115							POORLY GRADED SAND with GRAVEL (SP): continued	WASTE ROCK		
109													
110													
111													
112													
113													
114													
115													
116													
117	14:51 15:02												
118													
119													
120										At 120 ft: color change to brown (10YR 4/3), decrease in fines content to ~5%			
121		Run 13	WRSB206_115-125										
122													
123													
124													
125													Sample WRSB206_125-135 collected from 125 to 135 ft bgs.

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
127	15:12 08:32	R13								POORLY GRADED SAND with GRAVEL (SP): continued		01/21/2020 01/22/2020
128												
129												
130												
131												
132		Run 14										
133			WRSB206_125-135									
134												
135												
136												
137	08:34 08:58											
138												
139												
140												
141		Run 15										
142												
143			WRSB206_135-145									
144												Harder drilling at 144 ft bgs.

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
145		Run 15								POORLY GRADED SAND with GRAVEL (SP): continued At 144 to 146 ft: boulder encountered, core consists of rock fragments and rock flour		Sample WRSB206_135-145 collected from 135 to 145 ft bgs.
146												
147												
148												
149												
150												
151												
152		Run 16									WASTE ROCK	
153												
154												
155												
156												
157												
158												
159												
160		Run 17										
161												
162												

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
164		Run 17	WRSB206_155-165							POORLY GRADED SAND with GRAVEL (SP): continued		
165												
166												
167	10:40 10:59											
168												
169		Run 18	WRSB206_165-175								WASTE ROCK	
170												
171												
172												
173												
174		Run 19	WRSB206_175-182							At 176 ft: boulder, core consists of granitic rock fragments and rock flour		
175												
176												
177	11:16 09:15											
178												
179		Run 19	WRSB206_175-182							At 180 to 182 ft: boulder, core consists of rock fragments (6 inches in diameter) and rock flour		
180												
181												




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
182		Run 19								POORLY GRADED SAND with GRAVEL (SP): continued	NATIVE SOIL	Sample WRSB206_175-182 collected from 175 to 182 ft bgs.
183										SILTY SAND (SM): brown (10YR 4/3), dry, ~75% fine to coarse sand, ~15% low plasticity fines, ~10% fine subangular gravel (up to 3/4 inch in diameter), loose, weak cementation, weak reaction with HCl, organic odor		Bottom of waste rock at ~182 ft bgs.
184												
185												
186												
187	11:43 13:59	Run 20	WRSB206_187-192								NATIVE SOIL	
188												
189										At 189 ft: boulder, core consists of rock fragments and rock flour with quartz, hornblende and chlorite		
190												
191												
192												
193												
194												
195												
196												
197	14:18 11:53	Run 21	WRSB206_197-202							At 197 ft: boulder, core consists of rock fragments (up to 4 inches in diameter) and rock flour	NATIVE SOIL	01/23/2020 01/27/2020
198												
199												
See explanation sheet for descriptions of codes and symbols.										Project No. SA18170340		
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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-206 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
		Run 21	WRSB206_197-202							SILTY SAND (SM): continued	NATIVE SOIL	Borehole backfilled with hydrated bentonite chips from ground surface to ~15 ft bgs, neat cement grout from ~15 to 20 ft bgs, hydrated bentonite chips from ~20 to 80 ft bgs, and neat cement grout from ~80 to 202 ft bgs.
	12:01									Bottom of boring at 202 ft bgs		
-201												
-202												
-203												
-204												
-205												
-206												
-207												
-208												
-209												
-210												
-211												
-212												
-213												
-214												
-215												
-216												
-217												
-218												




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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207	
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA	
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA	NORTHING/EASTING 1539069.25 N / 326018.26 E
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/22/2020	DATE FINISHED: 1/22/2020
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 166.4	MEASURING POINT: Ground surface
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA	
SAMPLING METHOD: 4" & 6" sonic core barrel										SCREEN INTERVAL (feet): NA	TOC ELEVATION (feet): NA
BOREHOLE DIAMETER: 6" (0-146'), 4" (146-166.4')										LOGGED BY: R. Klier	REVIEWED BY: J. Klein

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	09:02									POORLY GRADED GRAVEL with SAND (GP): light yellowish brown (2.5Y 6/4), moist, ~55% fine to coarse subangular to angular gravel (up to 2.5 inches in diameter) and subangular cobbles (up to 4 inches in diameter), ~45% fine to coarse sand, weak cementation, trace organics (roots) At 1 to 1.5 ft: lense of material with higher moisture content, brown (7.5YR 5/4), moist, ~55% fine to coarse subangular gravel (up to 2.5 inches in diameter), ~40% fine to medium sand, ~5% nonplastic fines, weak cementation, blocky structure At 3 ft: ~50% subangular to angular gravel (up to 2.5 inches in diameter) and cobbles (up to 4 inches in diameter), ~45% fine to medium sand, ~5% nonplastic fines	WASTE ROCK	Sample WRSB207_0-0.5 collected from 0 to 0.5 ft bgs.
1		Run 1	WRSB207_0.5-3									
2												
3												
4												
5												
6	09:03 09:05		WRSB207_3-6									
7												
8												
9												
10												
11		Run 2										
12												
13												
14			WRSB207_6-15									
15												



See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
										POORLY GRADED GRAVEL with SAND (GP): continued		
	16	R2										
	16.09:07											
	16.09:14											
	17											
	18											
	19											
	20											
	21	Run 3										
	22											
	23											
	24		WRSB207_15-25							At 24 to 25 ft: zone of increased fines	WASTE ROCK	
	25											
	26											
	26.09:16											
	26.09:38											
	27									POORLY GRADED SAND with SILT and GRAVEL (SP-SM): pale yellow (2.5Y 7/3), moist, ~70% fine to coarse sand, ~20% fine to coarse subangular gravel (up to 1.5 inches in diameter), ~10% low plasticity fines, loose, weak cementation, no reaction with HCl		
	28											
	29											
	30	Run 4								POORLY GRADED GRAVEL with SILT and SAND (GP-GM): pale yellow (2.5Y 7/3), ~50% fine to coarse subangular gravel (up to 1.5 inches in diameter), ~40% fine to coarse sand, ~10% low plasticity fines, loose, weak cementation		
	31											
	32		WRSB207_25-35									
	33											

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)			
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
34		Run 4								POORLY GRADED GRAVEL with SILT and SAND (GP-GM): continued	WASTE ROCK	Sample WRSB207_25-35 collected from 25 to 35 ft bgs.	
35													
36	09:37 09:56									At 36 ft: subangular cobbles (up to 4.5 inches in diameter)			
37													
38		Run 5											
39													
40										POORLY GRADED GRAVEL with SAND (GP): pale yellow (2.5Y 7/3), dry, ~55% fine to coarse subangular gravel (up to 2.5 inches in diameter), ~45% fine to coarse sand, trace fines, weak cementation, no reaction with HCl			
41													
42		Run 6											
43													
44										At 44 ft: yellowish brown (10YR 5/4)			
45													
46	09:57 10:12	Run 6											
47													
48													
49													
50		Run 6											
51										POORLY GRADED GRAVEL with CLAY and SAND (GP-GC): pale yellow (2.5Y 8/3), dry, ~50% fine to coarse subangular gravel (up to 2 inches in diameter), ~40% fine to coarse sand, ~10% medium plasticity fines, loose, weak cementation			
52													

See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
53		Run 6	WRSB207_45-55							POORLY GRADED GRAVEL with CLAY and SAND (GP-GC): continued		Rig chatter at 53 ft bgs.
54												
55												
56	10:13 10:24											
57		Run 7	WRSB207_55-65								WASTE ROCK	
58												
59												
60												
61												
62												
63												
64												
65		Run 8	WRSB207_65-75							POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 4/4), moist, ~55% fine to medium sand, ~45% fine to coarse subangular gravel (up to 2.5 inches in diameter), trace fines, weak cementation, blocky structure, weak reaction with HCl		
66	10:25 10:37											
67												
68												
69												
70												
										POORLY GRADED GRAVEL with CLAY and SAND (GP-GC): yellowish brown (10YR 5/4), dry, ~50% fine to coarse subrounded to subangular gravel (up to 1.5 inches in diameter), ~40% fine to medium sand, ~10% low plasticity fines, weak cementation		
										POORLY GRADED SAND with GRAVEL (SP): yellowish brown (10YR 5/4), dry, ~50% fine to medium sand, ~45%		


See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
71		Run 8	WRSB207_65-75							fine to coarse subrounded to subangular gravel (up to 2.5 inches in diameter), ~5% nonplastic fines, weak cementation, blocky structure, strong reaction with HCl	WASTE ROCK	
72										POORLY GRADED SAND with GRAVEL (SP): continued		
73												
74												
75												
76	10:39 10:51	Run 9	WRSB207_75-85									
77												
78												
79												
80												
81		Run 10	WRSB207_85-95									
82												
83												
84												
85												
86	10:53 11:04											
87												
88												

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
90		Run 10	WRSB207_85-95							POORLY GRADED SAND with GRAVEL (SP): continued		
91												
92												
93												
94												
95		Run 11	WRSB207_95-105									
96	11:05 13:04											
97												
98												
99												
100		Run 12										
101												
102												
103												
104												
105												
106	13:06 13:23											
107												



See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	108									POORLY GRADED SAND with GRAVEL (SP): continued		
	109											
	110									At 110 ft: blocky structure		Rig chatter from 110 to 116 ft bgs.
	111											
	112	R12										
	113		WRSB207_105-115									
	114											
	115											
	116											
	117											
	118											
	119											
	120											
	121	Run 13										
	122											
	123		WRSB207_115-125									
	124									POORLY GRADED SAND with SILT and GRAVEL (SP-SM): light yellowish brown (10YR 6/4), dry, ~50% fine to medium sand, ~40% fine to coarse subrounded to subangular gravel (up to 2 inches in diameter), ~10% low plasticity fines, weak cementation, strong reaction with HCl		Sample WRSB207_125-135 collected from 125 to 135 ft bgs.
	125											
	13:41											

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
		14:06								POORLY GRADED SAND with SILT and GRAVEL (SP-SM): continued	WASTE ROCK	
	127	Run 14	WRSB207_125-135									
	128											
	129											
	130											
	131											
	132											
	133											
	134											
	135											
	136											
	137											Assumed transition to native soil at approximately 135 ft bgs.
	138										NATIVE SOIL	
	139											
	140											
	141											
	142											
	143											
	144											

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
145		Run 15								POORLY GRADED SAND with SILT and GRAVEL (SP-SM): continued	NATIVE SOIL	Sample WRSB207_140-145 collected from 140 to 145 ft bgs.
146	14:28 14:56											
147												
148												
149												
150												
151		Run 16										
152												
153												
154												
155			WRSB207_150-155									
156	14:38 15:19											
157												
158												
159												
160		Run 17										
161												
162												

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-207 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
164		Run 17								POORLY GRADED SAND with SILT and GRAVEL (SP-SM): continued	NATIVE SOIL	Borehole backfilled with hydrated bentonite chips from ground surface to ~146 ft bgs and cement-bentonite grout from ~146 to 166.4 ft bgs.
165												
166	15:22									Bottom of boring at 166.4 ft bgs		
167												
168												
169												
170												
171												
172												
173												
174												
175												
176												
177												
178												
179												
180												
181												



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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-208			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538893.05 N / 328020.91 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/7/2020		DATE FINISHED: 1/10/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 153.5		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 4" & 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-133.5'), 4" (133.5-153.5')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	


ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	11:04									POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/4), dry, ~55% fine to coarse sand, ~45% fine to coarse subangular gravel (up to 2.5 inches in diameter), loose, weak cementation, strong reaction with HCl		Sample WRSB208_0-0.5 collected from 0 to 0.5 ft bgs.
1			WRSB208_0.5-3									
2												
3												
4		Run 1								At 4 ft: trace cobble-sized, subangular rock fragments (up to 4.5 inches in diameter), trace fines		
5			WRSB208_3-6									
6												
7	11:07 11:13											
8												
9												
10												
11		Run 2										
12												
13												
14			WRSB208_6-15									
15												

See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-208 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
16		Run 2								POORLY GRADED SAND with GRAVEL (SP): continued		
17	11:15 11:18											
18												
19												
20												
21												
22		Run 3										
23			WRSB208_15-25									
24												
25												
26										At 26 ft: cobble-sized, fragmented rock (up to 4 inches in diameter), light brown (7.5YR 6/3), strong reaction with HCl		
27	11:21 11:31											Borehole caved when drilling from 27 to 37 ft bgs.
28										At 28 ft: ~55% fine to coarse sand, ~40% fine to coarse subangular gravel (up to 1.5 inches in diameter), ~5% low plasticity fines		
29												
30		Run 4										
31			WRSB208_25-35									
32												
33												






See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-208 (CONT.)			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)			
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
34		Run 4								POORLY GRADED SAND with GRAVEL (SP): continued	WASTE ROCK	Sample WRSB208_25-35 collected from 25 to 35 ft bgs.	
35										SILTY SAND with GRAVEL (SM): pinkish gray (7.5YR 6/2), dry, ~50% fine to coarse sand, ~30% fine to coarse subrounded to subangular gravel (up to 2 inches in diameter), ~20% low plasticity fines, loose, no structure, strong reaction with HCl, no odor			
36													
37	11:37 12:13									At 37 ft: dry, ~50% fine to coarse sand, ~35% fine to coarse subangular gravel, ~15% nonplastic fines, loose			
38													
39													
40													
41													
42		Run 5											
43													
44													
45													
46													
47	12:15 13:40									POORLY GRADED SAND with SILT and GRAVEL (SP-SM): brown (7.5YR 5/3), dry, ~55% fine to coarse sand, ~35% fine to coarse gravel (up to 2 inches in diameter), ~10% nonplastic fines, loose, weak reaction with HCl			
48												Hard drilling at 48 ft bgs.	
49		Run 6								At 49 ft: fine to coarse gravel (up to 1.5 inches), strong reaction with HCl			
50													
51													
52													

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-208 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
53		Run 6	WRSB208_45-55							POORLY GRADED SAND with GRAVEL (SP): light brown (7.5YR 6/3), dry, ~55% fine to coarse sand, ~40% fine to coarse subangular gravel (up to 1.5 inches in diameter), loose, strong reaction with HCl POORLY GRADED GRAVEL with SAND (GP): yellowish brown (10YR 5/4), dry, ~55% fine to coarse subangular gravel, ~45% fine to coarse sand, trace fines, loose, strong reaction with HCl	WASTE ROCK	
54												
55												
56												
57	13:50 14:10											
58												
59										POORLY GRADED SAND with SILT and GRAVEL (SP-SM): yellowish brown (10YR 5/4), dry, ~50% fine to coarse sand, ~40% fine to coarse subrounded to subangular gravel (up to 1 inch in diameter), ~10% low plasticity fines, loose, weak reaction with HCl		
60												
61												
62												
63		Run 7	WRSB208_55-65									
64												
65												
66												
67	14:15 14:31									At 66 ft: fine to coarse subrounded to subangular gravel (up to 2 inches in diameter)		
68												
69												
70												
		Run 8	WRSB208_65-75									

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-208 (CONT.)				
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)				
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS		
71		Run 8	WRSB208_65-75							POORLY GRADED SAND with SILT and GRAVEL (SP-SM): continued	WASTE ROCK			
72														
73														
74														
75														
76														
77	14:36 14:54													
78														
79														
80										At 80 ft: trace fines				
81														
82		Run 9	WRSB208_75-85											
83														
84														
85														
86														
87	14:56 15:22									At 87 ft: brown (7.5YR 5/3)				
88		Run 10	WRSB208_85-95											
										POORLY GRADED GRAVEL with SAND (GP): brown (10YR 4/3), ~55% fine to coarse subangular gravel (up to 2.5 inches in diameter), ~45% fine to coarse sand, weak				

wood.


PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-208 (CONT.)				
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)				
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS		
108		Run 12	WRSB208_105-115							POORLY GRADED SAND with GRAVEL (SP): continued	WASTE ROCK	Hard drilling at ~117 ft bgs.		
109														
110														
111														
112														
113														
114														
115														
116									At 116 ft: cobble-sized, fragmented rock (up to 3.5 inches in diameter), trace fines					
117	12:10 12:30													
118														
119														
120														
121		Run 13	WRSB208_115-125											
122														
123											At 123 ft: dry, ~75% fine to coarse sand, ~20% fine subrounded to subangular gravel, trace coarse subrounded to subangular gravel, ~5% fines, loose, blocky structure, isolated fragments of cemented, fine gravel in a finer-grained matrix, strong reaction with HCl		Rig chatter at ~124 ft bgs.	
124														
125														

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-208 (CONT.) Monitoring Well / Piezometer ID: NA (CONT.)		
CLIENT: Atlantic Richfield Company												
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
127	127.34 15.12	R13								POORLY GRADED SAND with GRAVEL (SP): continued	WASTE ROCK	Easy drilling at 126 ft bgs.
128												Hard drilling from 127 to 131 ft bgs.
129		Run 14										
130			WRSB208_125-131.5									
131	15.16 15.28									POORLY GRADED SAND with SILT and GRAVEL (SP-SM): dark yellowish brown (10YR 4/4), dry, ~75% fine to coarse sand, ~15% fine to coarse subangular gravel (up to 1.5 inches in diameter), ~10% low plasticity fines, loose, weak cementation, no structure, no reaction with HCl, no odor	NATIVE SOIL	Native soil interface at 131.5 ft bgs.
132												
133												
134		Run 15										
135												
136												
137	15.30 15.48											
138												
139												
140												
141		Run 16								At 141 to 144 ft: isolated fragments of cohesive material in a finer-grained matrix, coarse subangular gravel (up to 2.5 inches in diameter), blocky structure, weak cementation		
142			WRSB208_136.5-141.5									
143												
144												
 See explanation sheet for descriptions of codes and symbols.										Project No. SA18170340		
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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-208 (CONT.)		
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA (CONT.)		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
145		Run 16								POORLY GRADED SAND with SILT and GRAVEL (SP-SM): continued		
146										POORLY GRADED SAND (SP): yellowish brown (10YR 5/4), moist, ~95% fine to coarse sand, ~5% fine subrounded gravel (up to 3/4 inch in diameter), trace fines, loose, weak cementation, blocky structure, no reaction with HCl		
147	13:45 09:57											01/08/2020 01/10/2020
148											NATIVE SOIL	
149										At 149.5 ft: ~5% fine to coarse subrounded to subangular gravel (up to 2.5 inches in diameter), trace subangular cobbles (up to 4 inches in diameter)		
150		Run 17										
151												
152												
153	09:59											
154										Bottom of boring at 153.5 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to ~113.5 ft bgs and cement-bentonite grout from ~113.5 to 153.5 ft bgs.
155												
156												
157												
158												
159												
160												
161												
162												

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-209			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1536228.83 N / 327592.10 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 12/18/2019		DATE FINISHED: 12/18/2019	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS		
11:58	0	Run 1	WRSB209_0.5-3							POORLY GRADED SAND with GRAVEL (SP): pale brown (10YR 6/3), dry, ~60% fine to coarse sand, ~40% fine to coarse subangular gravel (up to 2.5 inches in diameter), loose, strong reaction with HCl	WASTE ROCK	Sample WRSB209_0-0.5 collected from 0 to 0.5 ft bgs.		
1														
2														
3														
4										At 4 ft: very pale brown (10YR 7/3), no reaction with HCl				
5														
12:00	6	Run 2	WRSB209_3-6											
12:02	7									At 7 ft: ~70% fine to coarse sand, ~30% fine to coarse subangular gravel (up to 2 inches in diameter), weak reaction with HCl				
8														
9														
10														
11														
12														
13														
14														
12:05	15		WRSB209_6-15									At 14 ft: pale brown (2.5Y 7/4)		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.
												Bottom of boring at 15 ft bgs		




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-210			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1536280.94 N / 327238.86 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 12/18/2019		DATE FINISHED: 12/18/2019	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
13.59	0	Run 1	WRSB210_0.5-3							POORLY GRADED SAND with GRAVEL (SP): yellowish brown (10YR 5/4), dry, ~65% fine to coarse sand, ~30% fine to coarse subangular gravel (up to 2.5 inches in diameter) and subangular cobbles (up to 5 inches in diameter), ~5% nonplastic fines, loose, weak reaction with HCl	WASTE ROCK	Sample WRSB210_0-0.5 collected from 0 to 0.5 ft bgs.	
1													
2													
3													
4													
5													
14.00 14.02	6	Run 2	WRSB210_3-6						At 4 ft: very pale brown (10YR 7/3), strong reaction with HCl	WASTE ROCK			
7													
8													
9													
10													
11													
14.03	15		WRSB210_6-15						At 11 ft: yellowish brown (10YR 5/4), subangular cobbles (up to 7 inches in diameter), strong reaction with HCl			WASTE ROCK	
12													
13													
14													
15													
Bottom of boring at 15 ft bgs													Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.




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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-211	
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA	
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA	NORTHING/EASTING 1536954.28 N / 327906.49 E
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 12/18/2019	DATE FINISHED: 12/18/2019
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0	MEASURING POINT: Ground surface
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA	
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA	TOC ELEVATION (feet): NA
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier	REVIEWED BY: J. Klein

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
10:33	0	Run 1	WRSB211_0.5-3							POORLY GRADED SAND with GRAVEL (SP): dark yellowish brown (10YR 4/4), dry, ~60% fine to coarse sand, ~40% fine to coarse subangular to subrounded gravel (up to 2 inches in diameter), loose, no reaction with HCl	WASTE ROCK	Sample WRSB211_0-0.5 collected from 0 to 0.5 ft bgs.	
	1												
	2												
	3												
	4												
	5												
	6												
10:34 10:35	7												
	8												
	9												
	10												
	11	Run 2											
	12									At 12 ft: sand, medium dense, cobble-sized fragmented rock (up to 5.5 inches in diameter)			Harder drilling at 12 ft bgs.
	13												
	14												
10:36	15		WRSB211_6-15							Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	




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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-212			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1537446.08 N / 326420.16 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/15/2020		DATE FINISHED: 1/15/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein	


ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	12:06									POORLY GRADED SAND with GRAVEL (SP): light brown (7.5YR 6/3), dry, ~65% fine to coarse sand, ~30% subangular gravel (up to 1 inch in diameter), ~5% fines, loose, weak cementation, weak reaction with HCl		Sample WRSB212_0-0.5 collected from 0 to 0.5 ft bgs.
1			WRSB212_0.5-3									
2										At 2 to 6 ft: cobbles (up to 4 inches in diameter)		
3												
4		Run 1										
5			WRSB212_3-6									
6												
7	12:09 12:13											
8												
9												
10												
11		Run 2										
12												
13												
14			WRSB212_6-15									
15	12:16									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.



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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-213				
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA				
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1537612.38 N / 325532.47 E		
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/13/2020		DATE FINISHED: 1/13/2020		
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface		
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA				
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA		
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS		
	13:57									POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/3), dry, ~65% fine to coarse sand, ~35% subangular gravel (up to 2 inches in diameter), loose, weak cementation, weak reaction with HCl		Sample WRSB213_0-0.5 collected from 0 to 0.5 ft bgs.		
	1		WRSB213_0.5-3											
	2													
	3													
	4	Run 1												
	5		WRSB213_3-6											
	6													
	7									At 7 to 9 ft: color changes to light brownish gray (10YR 6/2)				
	14:05 14:08										WASTE ROCK			
	8													
	9													
	10									At 10 ft: large (4 inches) granitic cobble				
	11	Run 2												
	12													
	13													
	14		WRSB213_6-15											
	15									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.		
										See explanation sheet for descriptions of codes and symbols.			Project No. SA18170340	
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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-214			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1537688.75 N / 325221.66 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/10/2020		DATE FINISHED: 1/10/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: K. Pennell		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
	10:27									POORLY GRADED SAND with SILT and GRAVEL (SP-SM): brown (7.5YR 5/4), dry, ~60% fine to coarse sand, ~30% subangular gravel (up to 3 inches in diameter), ~10% low plasticity fines, loose, strong reaction with HCl		Sample WRSB214_0-0.5 collected from 0 to 0.5 ft bgs.	
	1	Run 1	WRSB214_0.5-3							At 0 to 7 ft: cobbles (up to 6 inches in diameter)			
	2												
	3												
	4												
	5												
	6												
	7									At 7 ft: ~20% gravel			
	10:30 10:32												
	8												
	9												
	10												
	11	Run 2											
	12												
	13												
	14												
	15									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	



See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-215				
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA				
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1537546.91 N / 327049.95 E		
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/14/2020		DATE FINISHED: 1/14/2020		
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface		
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA				
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA		
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein		
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS		
	08:49									POORLY GRADED SAND with GRAVEL (SP): yellowish brown (10YR 5/4), dry, ~75% fine to coarse sand, ~20% fine to coarse subrounded to subangular gravel (up to 2.5 inches in diameter) and cobbles (up to 4 inches in diameter), ~5% fines, loose, weak cementation, no reaction with HCl	WASTE ROCK	Sample WRSB215_0-0.5 collected from 0 to 0.5 ft bgs.		
1		Run 1	WRSB215_0.5-3											
2														
3										At 3 ft: weak cementation, blocky structure				
4														
5			WRSB215_3-6											
6														
7	08:50 08:53													
8														
9														
10										At 10 ft: brown (7.5YR 5/4)				
11		Run 2								At 11 ft: ~70% fine to coarse sand, ~30% fine to coarse subrounded gravel (up to 2.5 inches in diameter) and cobbles (up to 4 inches in diameter), trace fines				
12														
13														
14			WRSB215_6-15											
15	08:54									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.		
										See explanation sheet for descriptions of codes and symbols.			Project No. SA18170340 Page 1 of 1	

PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-216			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1537859.57 N / 326034.23 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/14/2020		DATE FINISHED: 1/14/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
	08:23									POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/3), dry, ~65% fine to coarse sand, ~35% subangular gravel and cobbles (up to 4 inches in diameter), loose, weak cementation, weak reaction with HCl		Sample WRSB216_0-0.5 collected from 0 to 0.5 ft bgs.	
1		Run 1	WRSB216_0.5-3										
2										At 2 to 15 ft: granitic gravel clasts (up to 5 inches in diameter)			
3													
4													
5													
6													
7	08:26 08:30												
8													
9													
10													
11		Run 2											
12													
13													
14													
15	08:33		WRSB216_6-15							Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-217			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1537779.55 N / 327824.28 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 12/17/2019		DATE FINISHED: 12/17/2019	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
	08:34									POORLY GRADED SAND with GRAVEL (SP): yellowish brown (10YR 5/4), dry, ~60% fine to coarse sand, ~40% fine to coarse subangular gravel (up to 2.5 inches in diameter), trace fines, loose, weak reaction with HCl		Sample WRSB217_0-0.5 collected from 0 to 0.5 ft bgs.	
1		Run 1	WRSB217_0.5-3										
2													
3													
4										At 4 ft: pale brown (10YR 6/3)			
5													
6													
7	08:37 08:40									At 7 ft: dark yellowish brown (10YR 4/4), trace subangular cobbles (up to 6 inches in diameter)		Harder drilling at 6.5 ft bgs.	
8													
9													
10													
11		Run 2											
12													
13										At 13 ft: fine to coarse subrounded to subangular gravel			
14													
15	08:43		WRSB217_6-15							Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-218			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538040.22 N / 328192.29 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 12/17/2019		DATE FINISHED: 12/17/2019	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
14.23	0	Run 1	WRSB218_0.5-3							POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/4), dry, ~60% fine to coarse sand, ~40% fine to coarse subangular gravel (up to 2 inches in diameter), trace fines, loose, weak cementation, weak reaction with HCl	WASTE ROCK	Sample WRSB218_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
14.26	6	Run 2	WRSB218_3-6						At 4 ft: cobble-sized rock fragments (up to 4.5 inches in diameter)			
14.31												
7												
8												
9												
10												
11												
12												
13												
14.33	15		WRSB218_6-15							Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-219			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538297.61 N / 326918.63 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/21/2020		DATE FINISHED: 1/21/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
10:27	0	Run 1	WRSB219_0.5-3							POORLY GRADED GRAVEL with SAND (GP): light olive brown (2.5Y 5/3), moist, ~55% fine to coarse subangular to angular gravel (up to 2.5 inches in diameter) and subangular to angular cobbles (up to 6 inches in diameter), ~45% fine to coarse sand, medium dense, weak cementation, no reaction with HCl	WASTE ROCK	Sample WRSB219_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
10:28 10:30	6	Run 2	WRSB219_3-6						At 5 ft: trace fines			
7												
8												
9												
10												
11												
12												
13												
14												
10:31	15		WRSB219_6-15							At 9 ft: ~70% fine to coarse subangular to angular gravel (up to 2.5 inches in diameter) and angular cobbles (up to 6 inches in diameter), ~30% fine to coarse sand		
										Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.



See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-220			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538357.46 N / 326197.40 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/21/2020		DATE FINISHED: 1/21/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
13:17	0	Run 1	WRSB220_0.5-3							POORLY GRADED GRAVEL with SAND (GP): pale brown (10YR 6/3), dry, ~60% fine to coarse subangular to angular gravel (up to 2.5 inches in diameter) and subangular cobbles (up to 4 inches in diameter), ~40% fine to coarse sand, loose, weak cementation, no reaction with HCl	WASTE ROCK	Sample WRSB220_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
13:18	6	Run 2	WRSB220_3-6							At 10 ft: subangular to angular cobbles (up to 6 inches in diameter)	WASTE ROCK	
13:18	6											
7												
8												
9												
10												
11												
12												
13												
13:20	15		WRSB220_6-15									Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.

See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-221			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538571.96 N / 324744.12 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/10/2020		DATE FINISHED: 1/10/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: K. Pennell		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
	08:48									POORLY GRADED SAND with SILT and GRAVEL (SP-SM): very pale brown (10YR 7/4), ~70% fine to coarse sand, ~20% subangular gravel (up to 3 inches in diameter), ~10% low plasticity fines, loose, weak cementation, no structure, strong reaction with HCl		Sample WRSB221_0-0.5 collected from 0 to 0.5 ft bgs.	
1		Run 1	WRSB221_0.5-3										
2													
3													
4													
5			WRSB221_3-6							At 5 ft: cobbles (up to 6 inches in diameter)			
6													
7	08:52 09:05												
8													
9													
10													
11		Run 2											
12													
13													
14			WRSB221_6-15										
15	09:07									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	


See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-222			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538592.31 N / 325271.05 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/15/2020		DATE FINISHED: 1/15/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
	10:27									POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/3), dry, ~60% fine to coarse sand, ~40% subangular gravel and cobbles (up to 4.5 inches in diameter), loose, weak cementation, gravel is granitic, weak reaction with HCl	WASTE ROCK	Sample WRSB222_0-0.5 collected from 0 to 0.5 ft bgs.	
	1		WRSB222_0.5-3										
	2												
	3												
	4	Run 1											
	5		WRSB222_3-6										
	6												
	7												
	10:31 10:36												
	8												
	9												
	10												
	11	Run 2											
	12												
	13												
	14		WRSB222_6-15										
15	10:40									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	
										See explanation sheet for descriptions of codes and symbols.		Project No. SA18170340	
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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-223			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538584.50 N / 327221.04 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/23/2020		DATE FINISHED: 1/23/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
13.24	0	Run 1	WRSB223_0.5-3							POORLY GRADED GRAVEL with SAND (GP): light olive brown (2.5Y 5/3), moist, ~55% fine to coarse subangular to angular gravel (up to 2.5 inches in diameter) and cobbles (up to 3.5 inches in diameter), ~40% fine to coarse sand, ~5% nonplastic fines, weak cementation, no reaction with HCl	WASTE ROCK	Sample WRSB223_0-0.5 collected from 0 to 0.5 ft bgs.	
1	1												
2	2												
3	3												
4	4												
5	5												
13.25	6	Run 2	WRSB223_3-6										
13.26	7												
13.26	8												
9	9												
10	10												
11	11												
12	12												
13	13												
14	14												
13.27	15		WRSB223_6-15									At 8 ft: subangular cobbles (up to 5.5 inches in diameter)	
										At 12 ft: ~70% fine to coarse subangular to angular gravel (up to 2.5 inches in diameter) and cobbles (up to 6 inches in diameter), ~25% fine to coarse sand, ~5% low plasticity fines			
										Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	
										See explanation sheet for descriptions of codes and symbols.		Project No. SA18170340	
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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-224			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538626.18 N / 327761.44 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/21/2020		DATE FINISHED: 1/21/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
	08:54									POORLY GRADED GRAVEL with SAND (GP): light yellowish brown (2.5Y 6/3), moist, ~55% fine to coarse subangular gravel (up to 3 inches in diameter) and angular cobbles (up to 5 inches in diameter), ~45% fine to coarse sand, medium dense, weak cementation, no reaction with HCl At 1 ft: pale brown (2.5Y 7/4), trace fines, no reaction with HCl	WASTE ROCK	Sample WRSB224_0-0.5 collected from 0 to 0.5 ft bgs.	
1		Run 1	WRSB224_0.5-3										
2													
3													
4													
5													
6													
7	08:55 08:58												
8													
9													
10													
11		Run 2											
12													
13										At 13 ft: angular cobbles (up to 6.5 inches in diameter)			
14													
15	09:00		WRSB224_6-15							Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	
										See explanation sheet for descriptions of codes and symbols.			Project No. SA18170340
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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-225			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538845.57 N / 324424.05 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/9/2020		DATE FINISHED: 1/9/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	13:09									POORLY GRADED SAND with SILT and GRAVEL (SP-SM): strong brown, dry, ~70% medium sand, ~20% subangular gravel (up to 2 inches in diameter), ~10% low plasticity fines, loose, weak cementation, no reaction with HCl	WASTE ROCK	Sample WRSB225_0-0.5 collected from 0 to 0.5 ft bgs.
1		Run 1	WRSB225_0.5-3							At 3 to 5 ft: large granitic clasts (up to 5 inches in diameter)		
2												
3												
4												
5												
6												
7	13:15	Run 2	WRSB225_3-6									
8												
9												
10												
11												
12												
13												
14												
15			WRSB225_6-15							POORLY GRADED GRAVEL (GP): very pale brown (10YR 7/3), dry, ~90% subangular gravel and cobbles (up to 5 inches in diameter), ~10% medium sand, loose, weak cementation, gravel is granitic, no reaction with HCl		
										POORLY GRADED SAND with SILT and GRAVEL (SP-SM): strong brown, dry, ~70% medium sand, ~20% subangular gravel (up to 2 inches in diameter), ~10% low plasticity fines, loose, weak cementation, no reaction with HCl		
										Bottom of boring at 15 ft bgs		
											Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	



See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-226	
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA	
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA	NORTHING/EASTING 1539082.78 N / 324763.56 E
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/17/2020	DATE FINISHED: 1/17/2020
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0	MEASURING POINT: Ground surface
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA	
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA	TOC ELEVATION (feet): NA
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson	REVIEWED BY: J. Klein

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	09:20									POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/3), moist, ~70% fine to coarse sand, ~25% subangular gravel (up to 1.5 inches in diameter), loose, weak reaction with HCl		Sample WRSB226_0-0.5 collected from 0 to 0.5 ft bgs.
1		Run 1	WRSB226_0.5-3									
2												
3												
4												
5			WRSB226_3-6									
6										At 6 ft: boulder encountered, core consists of rock flour and cobble-sized rock fragments (up to 8 inches in diameter)		
7	09:23 09:26											
8												
9												
10												
11		Run 2										
12												
13												
14			WRSB226_6-15									
15	09:29									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.

See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-227			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538873.39 N / 326442.57 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/24/2020		DATE FINISHED: 1/24/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	08:27									POORLY GRADED GRAVEL with SAND (GP): light yellowish brown (10YR 6/4), moist, ~55% fine to coarse subangular gravel (up to 2.5 inches in diameter) and cobbles (up to 4 inches in diameter), ~40% fine to coarse sand, ~5% nonplastic fines, weak cementation, blocky structure, no reaction with HCl		Sample WRSB227_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3		Run 1	WRSB227_0.5-3							At 3 ft: brown (7.5YR 4/3), subangular cobbles (up to 5 inches in diameter)		
4												
5												
6	08:28 08:32		WRSB227_3-6									
7												
8												
9												
10												
11		Run 2										
12										At 11.5 ft: light yellowish brown (10YR 6/4)		
13												
14												
15	08:33		WRSB227_6-15							Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.

See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-228			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1538959.69 N / 327438.83 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/23/2020		DATE FINISHED: 1/23/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
14.13	1	Run 1	WRSB228_0.5-3							POORLY GRADED GRAVEL with SAND (GP): pale yellow (2.5YR 8/3), dry, ~60% fine to coarse subangular gravel (up to 2.5 inches in diameter) and cobbles (up to 3.5 inches in diameter), ~35% fine to coarse sand, ~5% nonplastic fines, weak cementation, contains organics (roots), no reaction with HCl	WASTE ROCK	Sample WRSB228_0-0.5 collected from 0 to 0.5 ft bgs.	
	2												
	3												
	4												
	5												
14.14	6	Run 2	WRSB228_3-6							At 5 ft: very pale brown (10YR 7/4)			
14.16													
	7												
	8												
	9												
	10		WRSB228_6-15										
	11												
	12												
	13												
	14												
14.17	15									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	

wood.


See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-229	
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA	
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA	NORTHING/EASTING 1539073.73 N / 328470.85 E
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 12/18/2019	DATE FINISHED: 12/18/2019
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0	MEASURING POINT: Ground surface
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA	
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA	TOC ELEVATION (feet): NA
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier	REVIEWED BY: J. Klein

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
09:11	0	Run 1	WRSB229_0.5-3							POORLY GRADED SAND with GRAVEL (SP): light yellowish brown (10YR 6/4), dry, ~60% fine to coarse sand, ~40% fine to coarse subangular gravel (up to 2.5 inches in diameter), loose, strong reaction with HCl	WASTE ROCK	Sample WRSB229_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
09:12 09:16	6	Run 2	WRSB229_3-6						At 7 ft: trace fines	WASTE ROCK		
7												
8												
9												
10												
11												
12												
13												
14												
09:17	15		WRSB229_6-15							At 13 ft: cobble-sized, fragmented rock (~5 inches in diameter)		
										Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-230			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1539141.87 N / 325305.51 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/16/2020		DATE FINISHED: 1/16/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
08:56	0	Run 1	WRSB230_0.5-3							POORLY GRADED SAND with GRAVEL (SP): light brown (7.5YR 6/3), dry, ~60% fine to coarse sand, ~35% subangular gravel (up to 1 inch in diameter), ~5% fines, trace cobbles, loose, weak cementation, organics (roots) at surface (0 to 0.5 ft), weak reaction with HCl	WASTE ROCK	Sample WRSB230_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
08:58 09:04	6	Run 2	WRSB230_3-6						At 4.5 to 15 ft: soil is moist	WASTE ROCK		
7												
8												
9												
10												
11												
12												
13												
14												
09:08	15		WRSB230_6-15							At 10 ft: gravel (up to 3 inches in diameter)		
										Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.



See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-231			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1539334.83 N / 326781.87 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/21/2020		DATE FINISHED: 1/21/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
14:39	0	Run 1	WRSB231_0.5-3							POORLY GRADED GRAVEL with SAND (GP): light yellowish brown (2.5YR 6/4), moist, ~55% fine to coarse subangular to angular gravel (up to 2.5 inches in diameter) and subangular to angular cobbles (up to 4 inches in diameter), ~45% fine to coarse sand, loose, weak cementation, contains trace organics (roots), no reaction with HCl	WASTE ROCK	Sample WRSB231_0-0.5 collected from 0 to 0.5 ft bgs.	
1													
2													
3													
4													
5													
14:40 14:42	6	Run 2	WRSB231_3-6							At 11 ft: trace fines	WASTE ROCK	Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	
7													
8													
9													
10													
11													
14:43	15		WRSB231_6-15										
Bottom of boring at 15 ft bgs													
												See explanation sheet for descriptions of codes and symbols.	Project No. SA18170340
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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-232			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1539779.78 N / 325261.91 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/17/2020		DATE FINISHED: 1/17/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
	10:31									POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/3), moist, ~65% fine to coarse sand, ~30% subangular gravel (up to 2 inches in diameter), ~5% fines, loose, weak cementation, weak reaction with HCl		Sample WRSB232_0-0.5 collected from 0 to 0.5 ft bgs.	
1		Run 1	WRSB232_0.5-3										
2													
3										At 3 ft; cobbles (up to 7 inches in diameter)			
4													
5			WRSB232_3-6										
6													
7	10:36												
8													
9													
10													
11		Run 2											
12													
13													
14			WRSB232_6-15										
15										Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	

See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-233			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1539846.95 N / 326032.19 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/24/2020		DATE FINISHED: 1/24/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	


ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	09:29		WRSB233_0-0.5							POORLY GRADED GRAVEL with SAND (GP): very pale brown (10YR 7/4), moist, ~50% fine to coarse subrounded to subangular gravel (up to 2.5 inches in diameter) and cobbles (up to 4 inches in diameter), ~45% fine to coarse sand, ~5% nonplastic fines, weak cementation, significant amount of organics (roots), no reaction with HCl		Sample WRSB233_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3		Run 1										
4												
5			WRSB233_3-6									
6	09:30 09:31											
7												
8												
9												
10												
11		Run 2										
12										POORLY GRADED SAND with GRAVEL (SP): light yellowish brown (10YR 6/4), dry, ~60% fine to coarse sand, ~35% fine to coarse subrounded to subangular gravel (up to 1 inch in diameter), ~5% nonplastic fines, loose, weak cementation, strong reaction with HCl		
13												
14			WRSB233_6-15									
15	09:32									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.

See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-234			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1539876.70 N / 326728.96 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/23/2020		DATE FINISHED: 1/23/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
11:25	0	Run 1	WRSB234_0.5-3							POORLY GRADED SAND with CLAY and GRAVEL (SP-SC): light yellowish brown (10YR 6/4), dry, ~50% fine to coarse sand, ~40% fine to coarse subangular gravel (up to 2.5 inches in diameter) and subangular cobbles (up to 4 inches in diameter), ~10% low plasticity fines, weak cementation, no reaction with HCl At 0 to 1 ft: trace organics (roots)	WASTE ROCK	Sample WRSB234_0-0.5 collected from 0 to 0.5 ft bgs.	
1										At 3 ft: yellowish brown (10YR 5/6)			
2													
3													
4													
5													
6		Run 2	WRSB234_3-6						At 6 ft: pale yellow (2.5Y 7/3), subangular cobbles (up to 5 inches in diameter), no reaction with HCl				
7													
8													
9													
10													
11													
12													
13													
14									At 14.5 ft: yellowish brown (10YR 5/4), no reaction with HCl	Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.			
15									Bottom of boring at 15 ft bgs				




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-235			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1539563.41 N / 327478.33 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 12/16/2019		DATE FINISHED: 12/16/2019	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
14.27	0	Run 1	WRSB235_0.5-3							POORLY GRADED SAND with GRAVEL (SP): yellowish brown (10YR 5/4), dry, ~60% fine to coarse sand, ~35% subangular gravel (up to 3 inches in diameter), ~5% nonplastic fines, loose, weak cementation, weak reaction with HCl	WASTE ROCK	Sample WRSB235_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
14.28 14.30	6	Run 2	WRSB235_3-6						At 4 ft: ~60% fine to coarse sand, ~40% subangular gravel (up to 3 inches in diameter) and subangular cobbles (up to 7 inches in diameter)	Rig chatter at 4 ft bgs.		
7												
8												
9												
10												
11												
12												
13												
14												
14.31	15									Bottom of boring at 15 ft bgs	Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-236	
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA	
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA	NORTHING/EASTING 1540148.50 N / 325113.76 E
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/20/2020	DATE FINISHED: 1/20/2020
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0	MEASURING POINT: Ground surface
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA	
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA	TOC ELEVATION (feet): NA
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson	REVIEWED BY: J. Klein

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
14:02	0	Run 1	WRSB236_0.5-3							POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/3), dry, ~60% fine to coarse sand, ~35% subangular gravel (up to 3 inches in diameter), ~5% fines, loose, weak cementation, weak reaction with HCl At 0.5 to 3 ft: cobbles (up to 5.5 inches in diameter), boulder encountered	WASTE ROCK	Sample WRSB236_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
6		Run 2	WRSB236_3-6									
7												
8												
9												
10												
11												
12												
13												
14												
14:06 14:10	7	Run 2	WRSB236_6-15									
8												
9												
10												
11												
14:15	15									At 14 to 15 ft: cobbles (up to 5.5 inches in diameter)		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.
										Bottom of boring at 15 ft bgs		




See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-237			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1540392.10 N / 326255.33 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/24/2020		DATE FINISHED: 1/24/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
10:04	0	Run 1	WRSB237_0.5-3							POORLY GRADED GRAVEL with SAND (GP): light gray (10YR 7/2), moist, ~50% fine to coarse subrounded to subangular gravel (up to 2.5 inches in diameter) and cobbles (up to 4 inches in diameter), ~45% fine to coarse sand, ~5% nonplastic fines, weak cementation, trace organics (roots), no reaction with HCl	WASTE ROCK	Sample WRSB237_0-0.5 collected from 0 to 0.5 ft bgs.	
1													
2													
3													
4													
5													
10:05	6	Run 2	WRSB237_3-6						POORLY GRADED SAND with GRAVEL (SP): pale brown (10YR 6/3), ~60% fine to coarse sand, ~35% fine to coarse subangular gravel (up to 2.5 inches in diameter), ~5% nonplastic fines, loose, weak cementation, blocky structure, strong reaction with HCl	WASTE ROCK			
10:07													
7													
8													
9													
10													
11													
12													
13													
14	14		WRSB237_6-15										Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.
15	15												



See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-238			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1540500.12 N / 325713.79 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/27/2020		DATE FINISHED: 1/27/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
	12:54									POORLY GRADED SAND with GRAVEL (SP): light yellowish brown (10YR 6/4), dry, ~60% fine to coarse sand, ~35% fine to coarse subrounded to subangular gravel (up to 2.5 inches in diameter), ~5% nonplastic fines, weak cementation, blocky structure, strong reaction with HCl		Sample WRSB238_0-0.5 collected from 0 to 0.5 ft bgs.	
1			WRSB238_0.5-3							At 2 ft: subangular cobbles (up to 4 inches in diameter)			
2													
3		Run 1											
4			WRSB238_3-6										
5													
6	12:55									At 6 ft: light yellowish brown (2.5Y 6/4)			
7	12:56												
8													
9													
10													
11		Run 2											
12													
13													
14			WRSB238_6-15										
15	12:59									Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	
wood.										See explanation sheet for descriptions of codes and symbols.		Project No. SA18170340	
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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-239			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1540557.79 N / 325197.93 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/27/2020		DATE FINISHED: 1/27/2020	
DRILLING EQUIPMENT: Boart Longyear LS600, track-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: R. Klier		REVIEWED BY: J. Klein	
ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS	
14.34	0	Run 1	WRSB239_0.5-3							POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/4), dry, ~55% fine to coarse sand, ~40% fine to coarse subrounded to subangular gravel (up to 2.5 inches in diameter) and cobbles (up to 4.5 inches in diameter), ~5% nonplastic fines, medium dense, weak cementation, blocky structure, trace organics (roots), strong reaction with HCl	WASTE ROCK	Sample WRSB239_0-0.5 collected from 0 to 0.5 ft bgs.	
1													
2													
3													
4													
5													
14.35	6	Run 2	WRSB239_3-6										
14.36													
14.37													
6													
7													
8													
9													
10													
11													
12		Run 2	WRSB239_6-15										
13													
14													
15													
14.38	15	Bottom of boring at 15 ft bgs										Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.	


See explanation sheet for descriptions of codes and symbols.

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PROJECT: ANACONDA COPPER MINE SITE Lyon County, Nevada										Log of Boring No. WRSB-240			
CLIENT: Atlantic Richfield Company										Monitoring Well / Piezometer ID: NA			
BORING LOCATION: OU-5 (South Waste Rock Area)										ELEVATION (feet) NA		NORTHING/EASTING 1540942.15 N / 324662.92 E	
DRILLING CONTRACTOR: Cascade Drilling, L.P.										DATE STARTED: 1/21/2020		DATE FINISHED: 1/21/2020	
DRILLING EQUIPMENT: Prosonic 600C, truck-mounted rig										TOTAL DEPTH (feet): 15.0		MEASURING POINT: Ground surface	
DRILLING METHOD: Sonic										DEPTH TO WATER (FIRST / COMPLETION): NA / NA			
SAMPLING METHOD: 6" sonic core barrel										SCREEN INTERVAL (feet): NA		TOC ELEVATION (feet): NA	
BOREHOLE DIAMETER: 6" (0-15')										LOGGED BY: B. Johnson		REVIEWED BY: J. Klein	

ELEVATION (feet)	DEPTH (feet)	RUN	SAMPLE NUMBER	SAMPLE & RECOVERY	DEPTH TO WATER	FRACTURING	HARDNESS	STRENGTH	WEATHERING	LITHOLOGIC DESCRIPTION	GEOLOGIC MATERIAL	REMARKS
	08:07									POORLY GRADED SAND with GRAVEL (SP): brown (7.5YR 5/3), dry, ~70% fine to coarse sand, ~25% subangular gravel (up to 2.5 inches in diameter), ~5% fines, loose, weak cementation, weak reaction with HCl	WASTE ROCK	Sample WRSB240_0-0.5 collected from 0 to 0.5 ft bgs.
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15	08:16	Run 2	WRSB240_6-15							Bottom of boring at 15 ft bgs		Borehole backfilled with hydrated bentonite chips from ground surface to 15 ft bgs.



See explanation sheet for descriptions of codes and symbols.

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Appendix 5C
OU-5 2019-2020 Borehole Location Elevations
Anaconda Copper Mine Site
Lyon County, Nevada

Borehole ID	Elevation¹
WRSB-206	4661.84
WRSB-207	4649.87
WRSB-208	4570.66
WRSB-209	4646.01
WRSB-210	4648.65
WRSB-211	4615.21
WRSB-212	4663.15
WRSB-213	4662.25
WRSB-214	4664.01
WRSB-215	4660.59
WRSB-216	4653.92
WRSB-217	4575.12
WRSB-218	4533.33
WRSB-219	4672.89
WRSB-220	4670.70
WRSB-221	4650.60
WRSB-222	4649.34
WRSB-223	4665.33
WRSB-224	4638.01
WRSB-225	4647.49
WRSB-226	4719.95
WRSB-227	4654.87
WRSB-228	4658.01
WRSB-229	4457.40
WRSB-230	4718.57
WRSB-231	4644.91
WRSB-232	4694.79
WRSB-233	4618.32
WRSB-234	4629.95
WRSB-235	4512.20
WRSB-236	4612.01
WRSB-237	4576.94
WRSB-238	4554.01
WRSB-239	4610.44
WRSB-240	4590.60

Note:

1. Datum are in NGVD 29 projection and elevations approximated from current topographic surface